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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,432	08/16/2000	Richard J. Blount	-47586-P037US-09907157	4601

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EXAMINER

NGUYEN, DUC M

ART UNIT PAPER NUMBER

2685

DATE MAILED: 02/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/641,432

Applicant(s)

Blount et al

Examiner

Duc M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Nov 19, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 and 29-55 is/are allowed.
- 6) ☒ Claim(s) 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### DETAILED ACTION

This action is in response to applicant's response filed on 11/19/03. Claims 1-55 are now pending in the present application.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Anderson** (US Pat No. **3,842,247**).

Regarding claim **26**, **Anderson** discloses a method for measuring delay of a transmission path, wherein the delays are measured at numerous frequency points over the frequency band of the transmission facility (see Fig. 1, and col. 3, lines 14-37). **Anderson** further discloses the step of averaging the values of delay as a new estimate of the delay (see col. 12, lines 50-58). Here, although **Anderson** is silent on the linearizing method for obtaining the delay from phase versus frequency characteristic graph as illustrated in Fig. 1 of Anderson, it is noted that linearizing a straight line from the graph as shown in Fig. 1 is equivalent to obtaining a straight line with a slope calculated from the average value of phases divided by the average value of frequencies.

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Since the average value of delays is the average value of phases divided by the average values of frequencies (see equation 1, col. 3, lines 25-26), and since linearizing a straight line from a plurality of measurement values is well known to one skill in the art of statistic, it would have been obvious to one skill in the art to modify **Anderson** to replace the average value of delays with the slope value obtained from linearizing the phase versus frequency characteristic graph as claimed, for improving the accuracy of the delay estimation (i.e, an extremely spurious measured data could be visually spotted and eliminated from linearizing the graph).

Regarding claim **27**, the claim is rejected for the same reason as set forth in claim **26** above. In addition, since **Anderson** discloses the step of averaging the delay values (see col. 12, lines 50-58), it would have been obvious to use the least square method when linearizing a curve because this would provide an optimal estimation error in statistics, thereby resulting in averaging a plurality of measurement values or averaging the delay values as disclosed by **Anderson**.

Regarding claim **28**, the claim is rejected for the same reason as set forth in claim **26** above. In addition, **Anderson** discloses a test signal with frequency increment as claimed (see col. 3, lines 29-37), in order to generate a phase change versus frequency change curve as shown in Fig. 1.

***Allowable Subject Matter***

3. Claims 1-25, 29-55 are allowed.

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4. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 1, 13, 29, 46, the cited prior art of record fail to disclose or make it obvious a method or apparatus for delay equalization of multiple transmission paths which comprises steps as specified in the claims, wherein the linear relationship between phase and frequency over a selected frequency range is utilized for modifying the delays of signal paths.

***Response to Arguments***

5. Applicant's arguments with respect to claims 26-28 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Rigby et al** (US Patent Number 3,970.926), Method and apparatus for measuring the group delay characteristics of a transmission path.

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (for formal communications intended for entry)

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(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (703) 306-4531, Monday-Thursday (9:00 AM - 5:00 PM). Or to Edward Urban (Supervisor) whose telephone number is (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Duc M. Nguyen



Jan 28, 2004